

Serial No. 10/031,219
Reply to Office Action of December 2, 2003

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AMENDMENTS TO THE CLAIMS

Claims 1-46 (Cancelled)

47. (Previously Presented) A method of providing fluid bypass in a downhole string, the method comprising the steps:

providing a bypass tool having a body defining an axial through bore and including a wall defining a fluid port, and an operating sleeve mounted to the body and normally positioned to close the port;

running the tool into a bore on a string;
dropping an activating device through the string to land on the operating sleeve; and
passing fluid through the string, body and operating sleeve, and also a flow restriction operatively associated with the operating sleeve and located upstream of the port, at selected flow rates to create selected fluid flow-related forces on the operating sleeve to move the sleeve to open the port.

48. (Previously Presented) The method of claim 47, further comprising maintaining fluid flow through the string, body and operating sleeve at a normal operational level at least as the activating device passes through the string and lands on the operating sleeve.

49. (Previously Presented) The method of claim 48, further comprising maintaining fluid flow through the string, body and operating sleeve at a normal operational level following landing of the activating device on the operating sleeve, and at least initially retaining the sleeve in position to close the fluid port.

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50. (Previously Presented) A downhole tool having first and second configurations and adapted to be run into a bore in the first configuration, the tool comprising:

a body adapted to be mounted on a tubular drill string and having an axial through bore for permitting passage of fluid therethrough while the tool remains in the first configuration;

an activating sleeve configured to travel through the string to land on the body and activate the tool; and

flow responsive means for cycling the activated tool between the first and second configurations in response to variations in fluid flowrate through the tool and sleeve between a first fluid flow rate of a normal operational level for drilling operations and a higher second fluid flow rate.

51. (Previously Presented) The tool of claim 50, further comprising indexing means for controlling cycling of the tool between the first and second configurations and permitting the tool to be in either one of the first and second configurations while the fluid flowrate is maintained at a normal, operational level.

52. (Previously Presented) The tool of claim 50, wherein the activating sleeve is adapted to release a coupling on landing on the body to activate the tool into the second configuration.

53. (Previously Presented) The tool of claim 50, further including means for biasing the tool towards the first configuration.

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54. (Previously Presented) The tool of claim 50, wherein the flow responsive means includes a differential piston.

55. (Previously Presented) The tool of claim 50, wherein the flow responsive means includes a flow restriction.

56. (Previously Presented) The tool of claim 55, wherein the flow restriction is defined by the activating sleeve.

57. (Previously Presented) The tool of claim 55, wherein the flow responsive means includes at least two axially spaced flow restrictions.

58. (Previously Presented) The tool of claim 50, wherein the tool is a bypass tool, the body defining a bypass port and wherein the bypass port is closed in the first configuration and open in the second configuration.

59. (Previously Presented) A method of operating a downhole tool, the method comprising:

running a tool into a bore on a string with the tool in a first configuration;
passing fluid through the string and an axial through bore defined by the tool with the tool remaining in the first configuration;

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passing an activating sleeve from the surface through the string to land on and activate the tool;

cycling the activated tool between first and second configurations in response to variations in fluid flowrate through the tool; and further comprising maintaining fluid flow through the string and body at a normal operational level at least as the activating sleeve passes through the string and lands on the tool.

60. (Cancelled)

61. (Previously Presented) The method of claim 59, further comprising maintaining fluid flow through the string and body at normal operational level following landing of the activating sleeve on the tool, and at least initially retaining the tool in the first configuration following landing of the activating sleeve on the tool.

62. (Previously Presented) The method of claim 59, further comprising maintaining the tool in the first configuration while the fluid flowrate is maintained at a normal, operational level, and subsequently maintaining the tool in the second configuration while the fluid flowrate is maintained at a normal, operational level.

63. (Previously Presented) A method of operating a downhole tool, the method comprising:

running a tool into a bore on a string with the tool in a first configuration;

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passing fluid through the string and an axial through bore defined by the tool with the tool remaining in the first configuration;

passing an activating sleeve from surface through the string to land on and activate the tool;

cycling the activated tool between first and second configurations in response to variations in fluid flowrate through the tool; and further comprising maintaining the tool in the first configuration while the fluid flowrate is maintained at a normal, operational level, and subsequently maintaining the tool in the second configuration while the fluid flowrate is maintained at a normal, operational level.